WHAT IS CLAIMED IS:

1. A method for delivering a therapeutic agent to a target site in a subject by interstitial drug delivery comprising the following steps:

(i) producing hollow "seeds" of a size that allows for such seeds to be inserted into a target *in vivo* site, and having encapsulated therein at least one non-radionuclide therapeutic agent that diffuses out of said seeds because of the presence of one or more holes dispersed therein;

(ii) inserting one or more of said therapeutic agent containing seeds at precise targeted sites in said subject; and

(iii) allowing for the therapeutic agent to diffuse from said seeds at said targeted sites.

2. The method of Claim 1, wherein said seed has a tubular configuration that is open at one or both ends.

3. The method of Claim 1, wherein said seed has a length ranging from 0.002 inch to 2 inches, a diameter ranging from 0.004 inch to 0.2 inch, a wall thickness ranging from 0.0005 inch to 0.5 inch, and having one or more holes having an average diameter ranging from 0.0001 to 0.1 inch in diameter.

4. The method of Claim 1, wherein said hollow seed is constructed of a metal or metal alloy comprising at least one metal or metal alloy selected from the group consisting of platinum, stainless steel, titanium, silver, and gold.

5. The method of Claim 1, wherein said seed consists of biocompatible polymer material.

6. The method of Claim 1, wherein said seeds are preferably delivered to a specific target site in a tissue or organ, and wherein precise placement is visually confirmed by a method selected from the group consisting of stereotactic-guidance, CT, ultrasound, and MRI.

7. The method of Claim 1, wherein said hollow seeds are implanted at one or more sites in a tumor.

8. The method of Claim 7, which is used to treat prostate cancer, head and neck cancer, brain cancer, breast cancer, liver cancer, or pancreatic cancer.

9. The method of Claim 1, which is used to target a therapeutic agent to sites comprising cancerous lesions, infection or inflammation.

10. The method of Claim 1, wherein said insertion method (ii) allows for said seeds to be placed within about 1 millimeter of a target site.

11. The method of Claim 1, wherein said hollow seeds comprise a nucleic acid sequence.

12. The method of Claim 11, wherein said nucleic acid sequence is a virus, viral vector, plasmid, antisense oligonucleotide, or ribozyme.

13. The method of Claim 12, wherein said nucleic acid sequence is a viral vector.

14. The method of Claim 1, wherein the therapeutic agent is a cytokine.

15. The method of Claim 1, wherein the therapeutic agent is a radiosensitizing gene.

16. The method of Claim 15, wherein the hollow metal seed further comprises a radioisotope.

17. A drug delivery system that comprises the following:

(i) a small hollow "seed" of a size that allows for it to be inserted into a target *in vivo* site with high precision, and having encapsulated therein

(ii) at least one therapeutic agent, and

(iii) further having disposed therein one or more holes of a diameter that allow for the controlled diffusion of said encapsulated therapeutic agent.

18. The drug delivery system of Claim 17, wherein said therapeutic agent is a nucleic acid sequence, cytokine, hormone, growth factor, toxin, or antibody.

19. The drug delivery system of Claim 16, wherein said hollow seed is a hollow tube open at one or both ends.

20. The drug delivery system of Claim 19, wherein said tube has a length ranging from 0.002 to 3 inches, diameter from 0.004 to 0.4 inch, and wall thickness from 0.0005 to 0.5 inch.

21. The drug delivery system of Claim 17, wherein said holes have an average diameter ranging from 0.0001 to 0.2 inch.

22. The drug delivery system of Claim 17, which comprises a cytokine or nucleic acid.

23. The drug delivery system of Claim 17, wherein said seed is made of a metal.

24. The drug delivery system of Claim 17, wherein said seed is made of a biocompatible polymer.